APTS
LOCAL SERVICE NATIONAL VOICE

THE DEAS NATIONAL CAPITAL REGION PILOT PROJECT

The Association of Public Television Stations (APTS) joined with the Department of Homeland Security's Federal Emergency Management Agency (FEMA), which is the federal government's program manager for the national Emergency Alert System (EAS), and the Department's Information Analysis and Infrastructure Protection (IAIP) Directorate for a series of tests using digital technology to improve America's alert and warning system. The Digital Emergency Alert System (DEAS) is part of a pilot project to demonstrate how the Department can improve public alert and warning during times of national crisis through the use of local public television's digital television broadcasts.

The pilot demonstrated how local public television stations' digital infrastructure, when used with the Public Broadcasting Service's (PBS) Next Generation Interconnection System, can play a role in the national delivery of a digitally-based alert and warning system – and as a last mile delivery system to radio and television stations, personal computers, cell phones and other consumer wireless devices. Additional project participants include other federal departments and agencies, and several private communication companies and broadcasters.

Phase I:

APTS and the Department launched Phase I of the project in the National Capital Region as a proof of performance for the use of public television stations' digital capabilities for a digitally-based alert and warning system. The pilot utilized open systems, non-proprietary architectures and applications, and the messages transmitted used the standardized, non-proprietary common alert protocol (CAP) data interchange format for consistent all-hazard emergency alerts.

Phase I of the pilot demonstrated how the capabilities of America's public broadcasters can be utilized to dramatically enhance the ability of the President of the United States to communicate with the American public during a national crisis. The decision to use the EAS is a governmental decision that lies with the Department. Public television stations are enhancing the delivery system, not involved in the activation protocol.

Phase II:

Phase II tests demonstrated an improved mechanism for distributing digital emergency alerts and warning messages via digital television and satellite to an expanded range of re-transmission media.

In Phase II, the pilot sent DHS-generated test messages through a public television access point located at WETA, a public television station serving Washington, D.C. The encrypted test messages were immediately datacast to receivers located at PBS. PBS uploaded the test messages and distributed them over the PBS satellite system to the local public television stations participating in Phase II.

Local public television stations selected for Phase II of the project include: Alabama Public Television (Birmingham, AL); Detroit Public Television (Detroit, MI); Iowa Public Television (Johnston, IA); KAKM (Anchorage, AK); KCTS (Seattle, WA); KET (Lexington, KY); KHUT (Houston, TX); KLVX (Las Vegas, NV); KUED (Salt Lake City, UT); KWBU (Waco, TX); Maryland Public Television (Owings Mill, MD); Mississippi Public Broadcasting (Jackson, MS); Nashville Public Television (Nashville, TN); New Hampshire Public Television (Durham, NH); New Jersey Public Television (Trenton, New Jersey); Oregon Public Broadcasting (Portland, OR); WBCC (Cocoa, FL); Wisconsin Public Television (Madison, WI); WITF (Harrisburg, PA); WHRO (Norfolk, VA); WKNO (Memphis, TN); Thirteen/WNET & WLIW (New York, NY); and WTVP (Peoria, IL). As the test data was passed through the PBS satellite interconnection system, these twenty four stations received and verified that the encrypted data was transmitted successfully.

The Technology: Digital public television stations have the capability to act as wireless networks capable of broadcasting data – or **datacasting** – information in their digital television signals beyond the pictures and sound needed for a traditional television program. Information datacast by public television stations can be received in homes, schools and workplaces by a TV tuner card plugged into a computer, a set-top box attached to a television or a new digital television set to capture the digital signal. The datacast receiver separates the data bits from the television programming stream, allowing this data to be manipulated and saved to any software program.

A datacasting system provides many advantages. Transmission of the data over the digital broadcast signal is nearly instantaneous, compressing minutes of alert time and information lags to just a few seconds. This infrastructure can bypass the congestion common to wire line and wireless services, such as the Internet, telephone and cellular networks. The system is “addressable” so that public safety agencies can pinpoint to whom the data is sent, whether to relevant agencies, hospitals, or first responders in the field. When officials want to send communications that are not intended for the general public, they can send targeted, encrypted information to certain authorized individuals.